(1) Let $R = k\langle x, y\rangle$ and $A = xR$. For $r \in R$, we have $r \in \mathbb{I}_R(A)$ iff $r \cdot x \in xR$. Writing $r = r_0 + r_1$ where r_0 is the constant term of r, we see that $r \cdot x = r_0x + r_1x \in xR$ *iff* $r_1 \in xR$.
This shows that $\mathbb{I}_R(A) = k + xR$, from which we get $\mathbb{E}_R(A) = (k + xR)/xR \sim k$.
(2) Let $R = \mathbb{Z} \oplus \mathbb{Z}i \oplus \mathbb{Z}j \oplus \mathbb{Z}k$ and $A = xR$, where $x = i + j + k$. Since $x^2 = -3$, we have $3R \subseteq xR$. Writing "bar" for the projection map $R \to \overline{R} = R/3R$, we check easily that the right annihilator of x in R has 9 elements. Since $|\overline{R}| = 3^4$, it follows that
(*) $[R : xR] = [\overline{R} : x\overline{R}] = 81/9 = 9$.
Now xR is not an ideal in R, so we have $R \supset \mathbb{I}_R(xR) \supseteq xR + \mathbb{Z} \supset xR$.
From (*), we see that $\mathbb{I}_R(xR) = xR + \mathbb{Z}$, and $\mathbb{E}_R(xR) = \mathbb{I}_R(xR)/xR \sim \mathbb{Z}/3\mathbb{Z}$.